

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-17 (Canceled)

Claim 18. (New) An information input method, comprising the steps of:

generating a pulse signal or modulation signal;

generating, on the basis of the pulse or modulation signal, a control signal for separately controlling light-receiving timings of light-receiving cells of an area image sensor for obtaining a difference between charges received by light-receiving cells which are arranged in an array pattern;

emitting light, an intensity of which changes on the basis of the generated control signal;

detecting a light image reflected by an object of the emitted light with an image sensor comprising first cells configured to pick up at an emission time and second cells configured to pick up at a non-emission time, said first and second cells arranged two-dimensionally; and

detecting a difference in accumulated electrical charges between a cell of the first cells and a corresponding cell of the second cells.

Claim 19. (New) An information input method, comprising the steps of:

generating a pulse signal or modulation signal;

emitting light, an intensity of which changes on the basis of the pulse or modulation signal;

receiving light reflected by an object of the emitted light and light other than the reflected light in synchronism with the pulse or modulation signal;

detecting an image of an object in the received reflected light with an image sensor comprising first cells configured to pick up at an emission time and second cells configured to pick up at a non-emission time, said first and second cells arranged two-dimensionally; and

detecting a difference in accumulated electrical charges between a cell of the first cells and a corresponding cell of the second cells.

Claim 20. (New) An article of manufacture, comprising:

a computer usable medium having computer readable program code means embodied therein for causing an area image sensor to obtain a difference between charges received by light-receiving cells which are arranged in an array pattern to be controlled, the computer readable program code means in said article of manufacture comprising:

computer readable program code means for causing a computer to generate a pulse signal or a modulation signal;

computer readable program code means for causing a computer to generate a control signal for separately controlling light-receiving timings of the light-receiving cells of said area image sensor on the basis of the pulse or modulation signal;

computer readable program code means for causing a computer to cause a light emitter to emit light, an intensity of which changes on the basis of the generated pulse signal or modulation signal; and

computer readable program code means for causing a computer to detect an object in a reflection of the emitted light with an image sensor comprising first cells configured to pick up at an emission time and second cells configured to pick up at a non-emission time, said first and second cells arranged two-dimensionally, and to detect a difference in accumulated electrical charges between a cell of the first cells and a corresponding cell of the second cells.

Claim 21. (New) An article of manufacture, comprising:

a computer usable medium having computer readable program code means embodied therein for causing an area image sensor to obtain a difference between charges received by light-receiving cells which are arranged in an array pattern to be controlled, the computer readable program code means in said article of manufacture comprising:

computer readable program code means for causing a computer to generate a pulse signal or a modulation signal;

computer readable program code means for causing a computer to cause a light emitter to emit light, an intensity of which changes on the basis of the pulse or modulation signal;

computer readable program code means for causing a computer to detect an object in a reflection of the emitted light with an image sensor comprising first cells configured to pick up at an emission time and second cells configured to pick up at a non-emission time, said first and second cells arranged two-dimensionally, and to detect a difference in accumulated electrical charges between a cell of the first cells and a corresponding cell of the second cells.